WEB SECURITY
(ELECTIVE – 1)

Course Code: 13CS2207

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Pre requisites: Network security and Cryptography, and proficiency in Java and web programming Languages.

Course Educational Objectives:
The main objective of this course is that to give exposure to various security threats to web servers and providing security to web servers.

Course Outcomes:
By the completion of this course, Student will

1. Understand security concepts, security professional roles, and security resources in the context of systems and security development life cycle
2. Understand applicable laws, legal issues and ethical issues regarding computer crime
3. Understand the business need for security, threats, attacks, top ten security vulnerabilities, and secure software development
4. Understand information security policies, standards and practices, the information security blueprint.
5. Analyze and describe security requirements for typical web application scenario.

UNIT – I
Introduction- A web security forensic lesson, Web languages, Introduction to different web
attacks. Overview of N-tier web applications, Web Servers: Apache, IIS, Database Servers.

UNIT – II
Review of computer security, Public Key cryptography, RSA. Review of Cryptography Basics, On-line Shopping, Payment Gateways.

UNIT – III

Web Hacking Basics HTTP & HTTPS URL, Web Under the Cover Overview of Java security
Reading the HTML source, Applet Security Servlets Security.
Symmetric and Asymmetric Encryptions, Network security Basics, Firewalls & IDS

UNIT – IV

Basics, Securing databases, Secure JDBC, Securing Large Applications, Cyber Graffiti.
Case study on various web forensic tools like helix 3.0, deft_6.1,related web tools.

UNIT – V

Introduction to Information Hiding: Technical Steganography, Linguistic Steganography, Copy Right Enforcement, Wisdom from Cryptography Principles of Steganography: Framework for Secret Communication, Security of Steganography System, Information Hiding in Noisy Data, Adaptive versus non-Adaptive Algorithms, Active and Malicious Attackers, Information hiding in Written Text.

TEXT BOOKS:

1. 1.McClure, Stuart, Saumil Shah, and Shreeraj Shah. Web Hacking : attacks and defense. Addison Wesley. 2003.
2. Garms, Jess and Daniel Somerfield. Professional Java Security. Wrox. 2001.

Related Web Sites:

1. 1.Collection of Cryptography Web Sites, Publications, FAQs, and References: http://world.std.com/~franl/crypto.html
2. FAQ: What is TLS/SSL? http://www.mail.nih.gov/user/faq/tlsssl.htm.
3. The Open SSL Project (SDKs for free download): http://www.openssl.org/